IN THE CLAIMS:

Please cancel claims 2 – 4 and 8.

Please see the remarks below concerning withdrawn claims 14 and 15.

Please amend claims 1, 5, and 9 – 13 as follows:

1. (CURRENTLY AMENDED) A rotary position sensor having an axis of rotation, comprising:

a magnet assembly having first and second poles wherein a working air gap is provided between the first and second poles~~;~~, the working air gap having a nonuniform magnetic field which is substantially symmetric with respect to an imaginary line between the first and second poles, further wherein the nonuniform magnetic field is substantially symmetric with respect to a line passing through the axis of rotation and perpendicular to the imaginary line;

a magnetosensitive device having a reference point, wherein the reference point is located within the working air gap~~;~~, the magnetosensitive device further having a reference direction, the reference direction being oriented substantially perpendicular to an imaginary plane passing through the reference point and the axis of rotation;

wherein the axis of rotation is located substantially midway between the first and second poles along the imaginary line;

wherein the axis of rotation to the reference point is a first selected distance greater than zero; ~~and~~

wherein the working air gap is a second selected distance~~.~~; and

the rotary position sensor not having ferromagnetic flux shapers between the first and second poles.

2. (CANCELED)

3. (CANCELED)

4. (CANCELED)

5. (CURRENTLY AMENDED) The sensor of claim ~~3~~1, wherein the magnet assembly further comprises a magnetic element selected from the group consisting of a permanent magnet arc and a ring magnet;

6. (ORIGINAL) The sensor of claim 5, wherein the magnet assembly further comprises a flux carrying ring; and

means for affixing the magnetic element to the flux carrying ring.

7. (ORIGINAL) The sensor of claim 6, wherein the magnetic element is composed of Sm_2Co_{17}.

8. (CANCELED)

9. (CURRENTLY AMENDED) The sensor of claim ~~3~~5, wherein the first selected distance is greater than about 0.4 mm.

10. (CURRENTLY AMENDED) The sensor of claim ~~3~~5, wherein the first selected distance is greater than about 0.8 mm.

11. (CURRENTLY AMENDED) The sensor of claim ~~3~~5, wherein the first selected distance is about 2% to about 40% of the second selected distance.

12. (CURRENTLY AMENDED) The sensor of claim ~~3~~5, wherein the first selected distance is about 8% to about 30% of the second selected distance.

13. (CURRENTLY AMENDED) The sensor of claim ~~3~~5, wherein the first selected distance is about 15% to about 25% of the second selected distance.

14. (WITHDRAWN)

15. (WITHDRAWN)